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CZECHOSLOVAK MOBILE ULTRASHORT-WAVE FM RADIO STATION

The "Tesla" national enterprise in Czechoslovakia has produced mobile ultrashort-wave FM transceivers for simplex telephony between moving automobiles or between automobiles and a stationary installation.

The station operates in the 30-40 Mc band and provides reliable communications at distances up to 30 km. The frequency swing is 15 kc. The station is connected to a 12-v automobile battery which draws θ amperes in reception and 15 amperes in transmission. The plate circuits of the receiver are supplied from a rotary converter which delivers 250 v; those of the transmitter are supplied from a rotary converter which delivers 560 v.

The receiver contains 13 miniature tubes. Its parameters are as follows: sensitivity -- about one $\mu\nu$; signal attenuation for detuning of + 30 kc -- 60 db; discriminator response -- linear in the frequency band up to 15 kc; pass band of the af amplifier -- 300-3,000 cps; output power -- 1.8 w.

The transmitter has eight tubes and frequency modulation is employed. The master oscillator is crystal-controlled. To obtain a frequency swing of 15 kc, 32-fold frequency multiplication is employed. The oscillatory power at the transmitter output for a 70-ohm load is 20 w.

A quarter-wave vertical antenna is used with the transceiver. The installation is equipped with a control board which is located in the passenger compartment of the automobile along with a loudspeaker and telephone handset. A meter is installed in the control board and is used to control the operation of various circuits of the transmitter and receiver. The installation is mounted on a 1:00- x 550-mm panel and is 250 mm high. The weight of the transceiver including rotary converters, is 30 kg.

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